

This issue includes reports on the 2025 IEEE VIC Summit & Honors Ceremony, the 2025 2nd Tokyo Section Sponsored Lecture Meeting (Co-hosted by LMAG), the 2025 3rd 2025 Tokyo Section Sponsored Lecture Meeting (Co-hosted by LMAG), and the 2025 1st 2025 Tokyo Section LMAG Sponsored Lecture Meeting (Co-hosted by TPC).

1. 2025 IEEE VIC Summit & Honors Ceremony

The 2025 IEEE Vision, Innovation, and Challenges (VIC) Summit & Honors Ceremony was held in Odaiba, Tokyo, from April 23 to 24, 2025, bringing together world-leading engineers, researchers, and pioneering innovators. The summit showcased significant advances in technology, with sessions covering artificial intelligence, sustainable engineering practices, and the future of wireless communications. This marked the first time the summit was held in Japan, with a total of 427 attendees (212 from overseas and 215 from Japan), including award recipients, IEEE executives, representatives from IEEE Regions, and award sponsors.

On the first day, April 23, the "IEEE Young Professionals and Laureate Forum" was held, primarily for students and other young members. Various sessions featuring this year's award recipients were also organized, including an interview session with the 2025 IEEE Medal of Honor recipient, Henry Samueli. At the Welcome Reception, IEEE Tokyo Section Vice Chair Norihiro Suzuki delivered a sponsor's greeting. Representatives from Mitsubishi Electric, Hitachi, and NEC also addressed the audience and introduced their companies.

From Japan, Seizo Onoe, former Chief Standardization Strategy Officer (CSSO) of Nippon Telegraph and Telephone Corporation (NTT) and current Director General of the Telecommunication Standardization Bureau of the International Telecommunication Union (ITU), was awarded the 2025 IEEE Jagadish Chandra Bose Medal in Wireless Communications. He delivered an acceptance speech recognizing his "contributions to the development, promotion of cooperation, and deployment of 3G and 4G mobile communications systems through research and development and international standardization."



Fig. 1 IEEE Medal Recipients



Fig. 2 Seizo Onoe giving the Commemorative Speech

2. 2nd Lecture Meeting hosted by Tokyo Section (co-hosted by LMAG)

The IEEE Tokyo Section TPC hosted a lecture, co-sponsored by LMAG Tokyo, on Wednesday, June 11, 2025. The event took place at the Kikai Shinko Kaikan (in person) and online. The speaker, Dr. Shinji Yuasa (Senior Chief Researcher, National Institute of Advanced Industrial Science and Technology), and

the title of the lecture was "Fundamentals and applications of magnesium oxide-based magnetic tunnel junctions." A total of 41 attendees participated, including 9 in person and 32 online, with 27 of them being IEEE members.

A "magnetic tunnel junction (MTJ)," in which an ultrathin insulating layer (tunnel barrier) is sandwiched between two ferromagnetic electrode layers, exhibits the "tunneling magnetoresistance (TMR) effect," where the electrical resistance varies depending on the relative magnetization directions of the electrodes. This is one of the most important technologies in spintronics. The spintronics field has progressed from the discovery of the giant magnetoresistance (GMR) effect (awarded the 2007 Nobel Prize in Physics) and the observation of the room-temperature TMR effect in amorphous Al-O tunnel barrier MTJs, to the present, where MTJ devices with crystalline MgO tunnel barriers exhibiting large TMR effects have become the core technology for practical applications. In particular, MTJs with the CoFeB/MgO/CoFeB structure, which is compatible with manufacturing processes, have been widely commercialized and adopted in high-performance magnetic heads for high-capacity HDDs (MgO-TMR heads), embedded nonvolatile memory (STT-MRAM), and general-purpose TMR magnetic sensors. This lecture reviewed roughly 20 years of research and development on MgO-based MTJs and discussed future directions for spintronics applications.

It was an extremely fascinating lecture, followed by an active and engaging Q&A session.



Fig. 3 Dr. Yuasa giving his talk

3. 3rd Lecture Meeting hosted by Tokyo Section (co-hosted by LMAG)

A lecture hosted by the IEEE Tokyo Section TPC and co-sponsored by LMAG Tokyo was held online on Wednesday, June 11, 2025. The speaker was Dr. Yusheng Ji (Information Systems Architecture Science Research Division, National Institute of

Informatics), and the lecture title was "Machine Learning for Network Resource Management." A total of 90 participants, including 55 IEEE members, attended the event.

To support advanced applications and intelligent innovations in a super-smart society, information and communication service infrastructures must achieve higher functionality, performance, and reliability. In wireless communication systems that are becoming increasingly sophisticated and complex in structure, new approaches to resource management and control are required to satisfy diverse user demands with limited wireless resources. Moreover, these approaches must be capable of handling large-scale systems as well as the dynamic changes in traffic demand and operating environments.

This lecture focused on research related to network resource management and control using machine learning. In particular, it introduced studies on resource sharing through distributed learning, which makes it possible to overcome constraints in distributed environments and to achieve autonomous and collaborative decision-making.

It was a highly engaging lecture, followed by a lively Q&A session.



Fig. 4 Dr. Ji giving her talk

4. 1st Lecture Meeting hosted by Tokyo Section LMAG (co-hosted by Tokyo Section TPC, Kansai Section LMAG and Nagoya Section LMAG)

The IEEE Tokyo Section LMAG, co-sponsored by Tokyo Section TPC, Kansai Section LMAG and Nagoya Section LMAG and supported by the Institute of Electronics, Information and Communication Engineers (IEICE) was held on Tuesday, August 5, 2025, at the Kikai Shinko Kaikan (in person) and online. The lecturer was Kazuo Kyuma (President, National Agriculture and Food Research Organization), and the title of his lecture was "Realizing Society 5.0 in the Agri-Food Sector-NARO's R&D Strategy for Food Security-." The event was attended by 11 people in person and 74 people online (85 people, including 51 IEEE members).

Japan's agriculture and food industries are facing challenges such as an aging and declining agricultural workforce, worsening global warming and natural disasters, and the emergence of geopolitical risks such as rising fertilizer and feed prices, weakening the production base. Amid this situation, the Basic Act on Food, Agriculture and Rural Areas, considered the agricultural constitution, was revised for the first time in 25 years last year, with ensuring food security as a fundamental principle.

The lecture introduced NARO as a national research and development organization that aims to create scientific and technological innovations to realize Society 5.0 in the agriculture and food sectors, and discussed NARO's efforts to ensure food security. In particular, it was explained that smart agricultural technology, which makes full use of cutting-edge technologies such as AI, data, and robotics, is key to the sustainable development of Japan's agriculture and food sectors and ensuring food security.

The lecture was very interesting, and there were active questions and answers session afterwards.



Fig. 5 Dr. Kyuma giving his talk

5. Future Events

LMAG-Tokyo is planning to hold the evening salons, lectures, and tours. Details will be announced at a later date.

- December 10th (Wednesday) LMAG Tour, National Defense Academy of Japan (hosted by LMAG).

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